

**B.Sc. Part—III (Semester—V) Examination**  
**ENVIRONMENTAL SCIENCE**  
**(Pollution Control Technology)**

Time : Three Hours]

[Maximum Marks : 80

- Note :—**(1) All questions are compulsory.  
 (2) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks :

- (i) Sampling is carried out for \_\_\_\_\_ and \_\_\_\_\_ environment. ½  
 (ii) Oil and Grease is removed with the help of \_\_\_\_\_ method from waste water. ½  
 (iii) MSW stands for \_\_\_\_\_ . ½  
 (iv) Trickling filter is a \_\_\_\_\_ process of waste water treatment. ½

(B) Choose correct alternatives :

- (i) \_\_\_\_\_ gas is a prominent green house gas. ½  
 (a) CO<sub>2</sub> (b) NO<sub>2</sub>  
 (c) SO<sub>2</sub> (d) CO
- (ii) \_\_\_\_\_ and \_\_\_\_\_ are two disposal methods of solid waste. ½  
 (a) Sanitary landfill and open dumping  
 (b) Close and Right method  
 (c) Incineration and Sea dumping  
 (d) Reuse and Recycle method
- (iii) Long form of UASB is \_\_\_\_\_ . ½  
 (a) Down flow aerobic sludge blanket  
 (b) Up flow anaerobic sludge blanket  
 (c) Upward anaerobic sludge blanket  
 (d) Upstream blanket
- (iv) Long form of RPPE is \_\_\_\_\_ . ½  
 (a) Energy equipment  
 (b) Equipment Personal Protective  
 (c) Respiratory Personal Protective Equipment  
 (d) Efficiency Equipment

- (C) Answer in **one** sentence each :
- (i) Define Screening process 1
  - (ii) Define Municipal solid waste 1
  - (iii) Define Biomedical waste 1
  - (iv) Define Indoor safety. 1
2. Describe in brief :
- (a) Adsorption technique of ambient air sampling. 4
  - (b) Analysis of spm (suspended particulate matter). 4
  - (c) West and Gaeke method of estimation of SO<sub>2</sub>. 4
- OR**
- (d) Gravity technique for estimation of settleable particulate matter. 4
  - (e) City planning concept. 4
  - (f) Source correction method. 4
3. Describe in brief :
- (g) Cyclone separators 4
  - (h) Electrostatic precipitator 4
  - (i) Any five ways of odour control. 4
- OR**
- (j) Use of after burners 4
  - (k) Catalytic converters 4
  - (l) Alternative fuels. 4
4. Describe in brief :
- (m) Grit chamber 4
  - (n) Oil and grease removal 4
  - (o) Chemical precipitation. 4
- OR**
- (p) Demineralization 4
  - (q) Activated sludge process 4
  - (r) Types of sludge. 4

5. Describe in brief :
- (s) Sources of municipal solid waste 4
  - (t) Sanitary landfills 4
  - (u) Gasification. 4

**OR**

- (v) Sources of Hazardous waste 4
  - (w) Pyrolysis 4
  - (x) Stabilization process for treatment of hazardous waste. 4
6. Define biomedical waste. Describe in detail concept and classification of biomedical waste. 12

**OR**

- Describe in detail handling and disposal of solid waste. 12
7. Define indoor safety. Describe in detail precautions in the processes and operations involving explosives and flammable substances. 12

**OR**

- Describe in detail selection and use of Non Respiratory Personal Protective Equipment (NRPPE). 12

